Complete Summary

GUIDELINE TITLE

Management of osteoporosis.

BIBLIOGRAPHIC SOURCE(S)

Michigan Quality Improvement Consortium. Management of osteoporosis. Southfield (MI): Michigan Quality Improvement Consortium; 2003 Oct. 1 p.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Osteoporosis

GUIDELINE CATEGORY

Evaluation
Management
Treatment

CLINICAL SPECIALTY

Family Practice
Internal Medicine

INTENDED USERS

Advanced Practice Nurses
Health Plans
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

- To achieve significant, measurable improvements in the management of osteoporosis through the development and implementation of common evidence-based clinical practice guidelines
- To design concise guidelines that are focused on key management components of osteoporosis to improve outcomes

TARGET POPULATION

- Women ≥age 65 regardless of risk factors
- Women age 60 to 64 with any of the following:
  - Weight <154 lbs
  - Smoking
  - Personal or family history of osteoporotic fracture
- Anyone on chronic glucocorticoid treatment

INTERVENTIONS AND PRACTICES CONSIDERED

Evaluation

1. Assessment of loss of height and back pain
2. Assessment of modifiable and non-modifiable risk factors
3. Bone mineral density (BMD) testing using dual energy x-ray absorptiometry (DEXA) spine and total hip

Management/Treatment

1. Dietary calcium (1200 to 1600 mg/d) and supplemental calcium, with 400 to 800 units vitamin D
2. Lifestyle changes (e.g., exercise, smoking cessation, moderation of alcohol and caffeine, fall prevention strategies)
3. Pharmacologic treatment (alendronate, raloxifene, risedronate)
4. Referral, if necessary

MAJOR OUTCOMES CONSIDERED

Not stated

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The Michigan Quality Improvement Consortium (MQIC) project leader conducts a search of current literature in support of the guideline topic. Computer database searches are used to identify published studies and existing protocols and/or

clinical practice guidelines on the selected topic. A database such as MEDLINE and two to three other databases are used.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence for the Most Significant Recommendation

A. Randomized controlled trials
B. Controlled trials, no randomization
C. Observational studies
D. Opinion of expert panel

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Using the health plan guideline summaries and information obtained from the literature search, the Michigan Quality Improvement Consortium (MQIC) director and/or project leader prepare a draft guideline for review by the MQIC Medical Directors.

The draft guideline and health plan guideline summaries are distributed to the MQIC Medical Directors for review and discussion at their next committee meeting.

The review/revision cycle may be conducted over several meetings before consensus is reached. Each version of the draft guideline is distributed to the MQIC Medical Directors, Measurement, and Implementation committee members for review and comments. All feedback received is distributed to the entire membership.

Once the MQIC Medical Directors achieve consensus on the draft guideline, it is considered approved for external distribution to practitioners with review and comments requested.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Once the Michigan Quality Improvement Consortium (MQIC) Medical Directors achieve consensus on the draft guideline, it is considered approved for external distribution to practitioners with review and comments requested.

The MQIC director also forwards the approved guideline draft to presidents of the appropriate state medical specialty societies for their input. All feedback received from external reviews is presented for discussion at the next MQIC Medical Directors Committee meeting. In addition, physicians are invited to attend the committee meeting to present their comments.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The level of evidence grades (A-D) are provided for the most significant recommendations and are defined at the end of the "Major Recommendations" field.

<u>Assessment</u>

- Assess for loss of height (>1.5 inches) and back pain
- Assess for risk factors:

  Modifiable:

  - Current cigarette smoking
  - Low body weight (<127 lbs.)
  - Estrogen deficiency
  - Premature menopause
  - Excessive thyroid hormone replacement
  - Chronic corticosteroid therapy

- Low calcium intake (life-long)
- Alcoholism
- Uncorrected visual impairment
- Inadequate physical activity
- Recurrent falls

Non-Modifiable:

- Personal or family history of fragility
- Family history of osteoporosis
- Caucasian or Asian race
- Age
- Gender
- Poor health/frailty
- Dementia
- Hypogonadism in males
- Fracture without substantial trauma

- Bone mineral density (BMD) testing using dual energy x-ray absorptiometry (DEXA) spine and total hip

Frequency

- Adult height assessments annually and at periodic well exams
- BMD test once for initial diagnosis [D]

Core Principles of Management and Pharmacologic Treatment

Self Management

All patients in the eligible population should ensure they maintain:

- Sufficient intake of dietary calcium (typically 1200 to 1600 mg/d) and supplemental calcium, with 400 to 800 units vitamin D [B]
- Make lifestyle changes: regular weight-bearing and muscle-strengthening exercises; physically challenged individuals may require rehabilitative interventions to improve activity levels; otherwise, patients may be encouraged to walk, jog, do weight training, or participate in similar activity programs [A]; smoking cessation; moderation of alcohol consumption[1]; minimize caffeine intake; and fall prevention strategies [C]

[1]Moderate alcohol consumption is defined as up to two drinks per day for men, one drink per day for women and older people.

Frequency

- BMD testing more often than every two years is not useful.
- Consider rechecking BMD after at least two years of pharmacologic treatment to monitor effectiveness [D].

Pharmacologic Treatment

- Osteopenia
    - T-score 1 to 2.5 standard deviations (SD) below healthy young adult mean [D].
    - Studies to prevent fractures in osteopenia alone do not support treatment [A].
    - Treating osteopenia may be considered if associated with atraumatic fracture.

  Prevention

    - Alendronate (Fosamax) 5 mg/d or 35 mg/week[2,3]
    - Raloxifene (Evista) 60 mg/d
    - Risedronate (Actonel) 5 mg/d[2,3]
- Osteoporosis
    - T-score >2.5 standard deviations (SD) below healthy young adult mean
    - Combined with fragility fractures, a T-score of >2.5 standard deviations (SD) below healthy young adult mean indicates severe osteoporosis

  Treatment

    - Alendronate (Fosamax) 10 mg/d or 70 mg/week[2,3]
    - Raloxifene (Evista) 60 mg/d
    - Risedronate (Actonel) 5 mg/d or 35 mg/week[2,3]

[2]Should not be used in patients with active upper gastrointestinal (GI) disorders (e.g., gastroesophageal reflux disease [GERD], peptic ulcer disease [PUD]) [A]

[3]Take medication on an empty stomach with water, remain upright for 30 minutes, no food or beverage for 30 minutes

Referral

If patient does not tolerate treatment or shows progression or recurrent fracture after 2 years on treatment, consider referral to a specialist.

Definitions:

Levels of Evidence for the Most Significant Recommendation

A. Randomized controlled trials
B. Controlled trials, no randomization
C. Observational studies
D. Opinion of expert panel

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence is provided for the most significant recommendations (See "Major Recommendations" field).

This guideline is based on several sources, including: Screening for Osteoporosis in Postmenopausal Women: Recommendations and Rationale, 2002 (www.preventiveservices.ahrq.gov).

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Through a collaborative approach to developing and implementing common clinical practice guidelines and performance measures for osteoporosis, Michigan health plans will achieve consistent delivery of evidence-based services and better health outcomes. This approach also will augment the practice environment for physicians by reducing the administrative burdens imposed by compliance with diverse health plan guidelines and associated requirements.

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

This guideline lists core management steps. Individual patient considerations and advances in medical science may supersede or modify these recommendations.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

When consensus is reached on a final version of the guideline, a statewide mailing of the approved guideline is completed. The guideline is distributed to physicians in the following medical specialties:

- Family Practice
- General Practice
- Internal Medicine
- Other Specialists for which the guideline is applicable (e.g., endocrinologists, allergists, pediatricians, cardiologists)

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

This guideline is based on several sources, including: Screening for Osteoporosis in Postmenopausal Women: Recommendations and Rationale, 2002 (www.preventiveservices.ahrq.gov).

DATE RELEASED

2003 Oct

GUIDELINE DEVELOPER(S)

Michigan Quality Improvement Consortium

SOURCE(S) OF FUNDING

Michigan Quality Improvement Consortium

GUIDELINE COMMITTEE

Michigan Quality Improvement Consortium Medical Director's Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Physician representatives from participating Michigan Quality Improvement Consortium health plans, Michigan State Medical Society, Michigan Osteopathic Association, Michigan Association of Health Plans, Michigan Department of Community Health and Michigan Peer Review Organization

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the Michigan Quality Improvement Consortium Web site.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on April 14, 2004. The information was verified by the guideline developer on July 27, 2004.

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